

JEFFREY L. BRUCE & COMPANY



LANDSCAPE ARCHITECTURE
CAMPUS PLANNING
URBAN DESIGN

JBC

Successful Project Management
STMA 2009


JBC PROFILE



- National Sportsturf Design Firm with over 500 Athletic Fields. 52 NCAA Division I
- Specializing in High Performance Natural & Artificial Sportsturf Systems & Athletic Master Planning.
- Sportsturf Design Staff Provides Research & Product Development Support for the Industry.
- Key Roles in ASTM, NFHSAD, NIAAA, NFLPA in Establishing Sportsturf Design Standards.

JBC


LEARNING the HARD WAY



"When one has finished building one's house, one suddenly realizes that in the process one has learned something that one really needed to know in the worst way - before one began."

• Friedrich Nietzsche

Not All Pain Is Gain



AGONY
NOT ALL PAIN IS GAIN.

WHAT IS PROJECT MANAGEMENT?



"Project management, is the application of knowledge, skills, tools, and techniques to describe, organize, oversee and control the various project processes.."

• Lori Criss Powers

PROJECT MANAGEMENT

The Things That You Need to Do :

- Develop a Plan
- Manage a Scope
- Manage Time & Costs
- Provide Quality Control
- Manage Human Resources
- Provide Communications
- Identify & Mitigate Risks



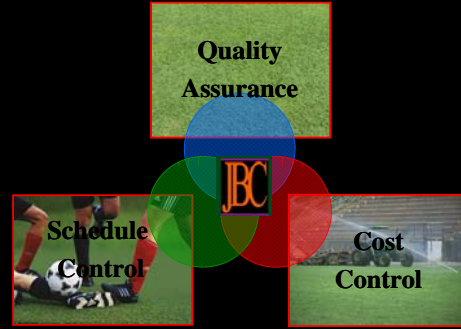
• Lori Criss Powers

“If you can't describe what you are doing as a process, you don't know what you're doing.”

W. Edwards Deming (1900 - 1993)



PROCESS = QUALITY



Our Framework for Success

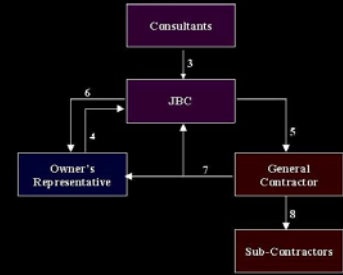
PROCESS = QUALITY

Our Assumptions:

- Quality should not cost more
- Quality is defined in every action
- Quality is a result of clear expectations
- Quality is knowing what to measure
- Quality requires constant communication
- Quality as a process never stops



PROCESS = QUALITY

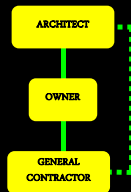


ARCHITECT'S SUPPLEMENTAL INFORMATION CHART

• Procedures Manual

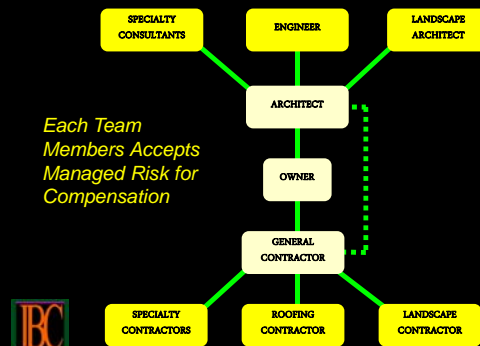
Construction & Risk Assumption

Primary Contractual Relationships

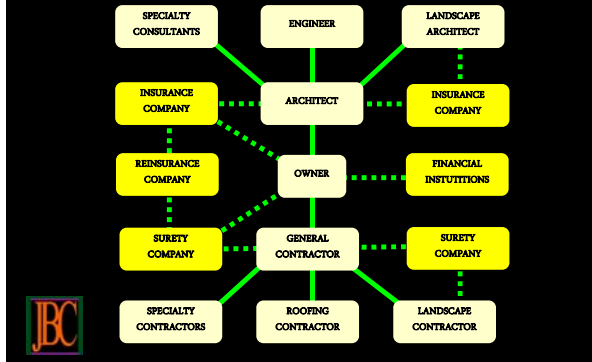


Construction & Risk Assumption

Each Team Members Accepts Managed Risk for Compensation



Construction & Risk Assumption



Project Management Process



EIGHT WEAK LINKS

- Competitive Bid Environment
- Landscape As Expendable
- Communications & Team Building
- Coordination of the Differing Trades
- Quality Assurance & Material Testing
- Cost Control
- Schedule Control
- Risk Management

CHALLENGE ONE

A Competitive Bid Environment That Focuses On The Low Competitive Bids From Unresponsive Bidders.

•Bid Environment

Some Companies Are Not Equipped

Link One Solutions

- Pre-Qualify Contractor's Experience
- Mandatory Pre-Bid Conference
- Limit the Opportunity for "Bid Shopping"
- Educate the Owner & GC
- Provide for Liquidated Damages
- Require Bonding
- Mandatory Pre-Construction Training

•Bid Environment

CHALLENGE TWO



Budgetary Perspectives That Target The Landscape As Expendable

•Landscape as Expendable

Its Not Over Until Its Built !



A constant competition for budget and resources between team members is part of the process

•Landscape as Expendable

Last in Line, Last in Mind !



The landscape becomes the contingency budget for the architect

Install it later!

•Landscape as Expendable

Link Two Solutions



- Advocate Early Procurement
- Contract Growing
- Pre-Purchase Contracts
- Educate the Owner & Architect
- Allowances
- Multiple Prime Contracts
- Maintain Budget Authority
- Appeal to Codes Officials

•Landscape as Expendable

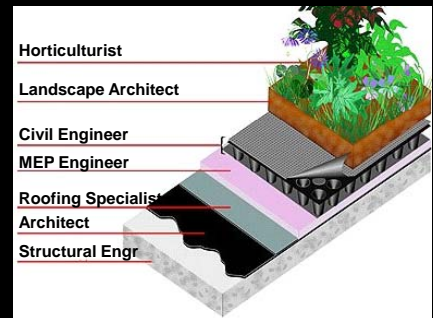
CHALLENGE THREE



A Lack of Coordination of the Differing Trades Involved in Construction

•Coordination of Trades

Design Can Be Fragmented





Link Three Solutions

- Establish Team Goals Early
- Cross Train Team Members
- Take Responsibility to Coordinate
- Establish a “Chain of Custody”
- Don’t Assume Incorrect Substrates
- Maintain Flexibility



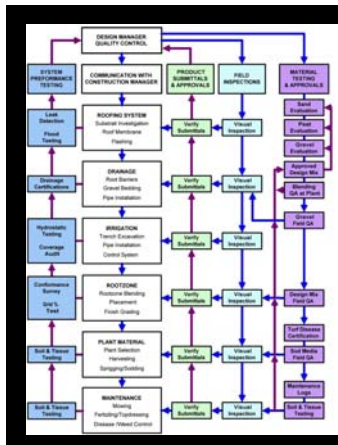
•Coordination of Trades

CHALLENGE FOUR

A Lack Of Quality Assurance And Material Testing Processes That Validate Product Performance.



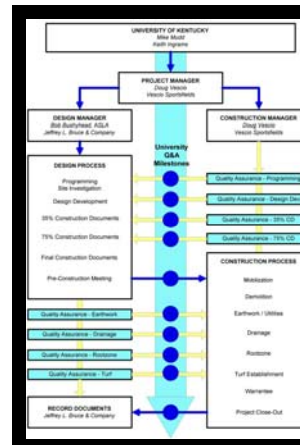
•Quality Assurance



Q & A Process

A comprehensive quality assurance approach for materials and construction is critical to successful project implementation.

•Quality Assurance



Benchmarks

Establish A Clear & Systematic Process of Review at the Start of Construction.

•Quality Assurance



Link Four Solutions

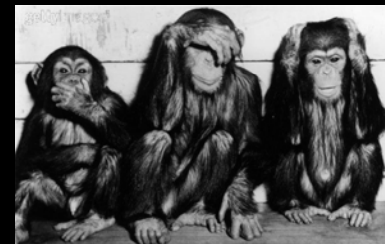
- Industry Accepted Testing Protocols
- Combined Laboratory & Field Testing
- Systematic Scheduling of Tests
- Understand the Test Results
- Understanding Performance Tolerances
- If You Can’t See It, You Can’t Manage It



•Quality Assurance

CHALLENGE FIVE

A lack of communication and team building between project partners.



•Lack of Communication

COST CONTROL

LANSING COMMUNITY PARK					
Opinion of Probable Cost					
Description	Quan	Unit	Unit Cost	Line Total	Category Total
TOTAL COST					10,424,585.00
DEMOLITION					
Shed	1.00	ls	5,000.00	5,000.00	
Rail Car (Relocation and Restoration)	1.00	ls	5,000.00	5,000.00	
Tree Removal	1.00	ls	15,000.00	15,000.00	
Total				25,000.00	
MISC. PARK					
Rough Site Grading	484,000.00	cy	6.00	2,904,000.00	
Roadway (Asphalt 24ft wide 6" Base 2" Binder 1 1/2")	7,520.00	sf	52.00	391,040.00	
Finish Grading	69,100.00	cy	3.00	207,300.00	
Electrical Service	5,410.00	lf	35.00	189,350.00	
Water Service (6")	6,286.00	lf	35.00	220,010.00	
Gas Service Line (4")	2,487.00	lf	40.00	99,480.00	
Sanitary Sewer Service	5,233.00	lf	45.00	235,485.00	

The objective of cost management is to ensure that the project is completed within budget.

•Cost Control

Link Six Solutions

- Understand Cost Of Decisions
- Continuously Refine Costs
- Coordination Of Disciplines
- Document Directives



•Cost Control

CHALLENGE SEVEN

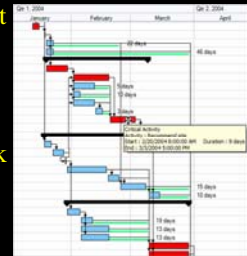
An inability to stop the bleeding by controlling unexpected delays.



•Schedule Control

List Activities Needed for Each Deliverable:

- Estimate Amount of Effort Required (specified in hours or days)
- Identify Resource Expected To Do The Work
- Calculate Delivery Dates
- Identify Critical Path



•Schedule Control

Drive the Schedule

- Project Initiation Meeting **November 2008**
- Schematic / Design Development - Program validation **30 - 45 days**
 - Water System - supply
 - Survey
 - Facilities Concepts - Validation
 - Details & Materials
- Preparation of Plans and Specifications / costing
 - 65% Plan review / initial permitting submittals **45 - 60 days**
 - 90% Plan review / final permitting timeline **30 - 60 days**
 - Final Bid documents / permitting **45 - 60 days**
- Bidding / award - 4 packages **45 - 60 days**
- Construction Targets
 - Earthwork / Fields **June 1, 2009**
 - Seed **September 15, 2009**
 - Concessions / facilities **August 15, 2009**
 - Paving **May 1, 2010**

PROJECT CHALLENGES

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When trying to identify problems look for:

- Cause Of Employee Discontent
- Things That Waste Time
- Lack Of Information
- Problems With Technology
- Low Productivity
- Slow Turnaround
- Poor Information Sharing
- Obvious Redundancies



•Schedule Control

When Deadlines Are Impossible to Achieve Given Activity Durations, Something Needs to Change:

- Re-negotiate the deadline using the project schedule to justify the delay
- Hire additional resources using the project schedule to justify the cost
- Reduce project scope (deliver less)



•Schedule Control

Link Seven Solutions

- Monitor From The Start
- Account For Approvals & Corrections
- Document Non-Compliance
- Proactively Manage Schedule Issues
- Understand The Effort Required



•Schedule Control

CHALLENGE EIGHT

Assuming unknown and unnecessary risks by project involvement .



•Risk Management

Common Project Management Risks

- Overly Optimistic Schedules
- Decisions Slower Than Expected
- Budget Cuts Upset Project Plans
- Stakeholder Input Is Not Solicited
- Vaguely Specified Areas
- Too Little Formality
- Stakeholders Insist On New Requirements



•Risk Management

Assessing Risk

Impact	Risk Management Actions		
	Significant	Considerable management required	Must manage and monitor risks
Moderate	Risks may be worth accepting with monitoring	Management effort worthwhile	Management effort required
Minor	Accept risks	Accept, but monitor risks	Manage and monitor risks
	Low	Medium	High
	Likelihood		

•Risk Management

Link Eight Solutions

- Include Pre-dispute Mechanisms
- Hold Frequent Status Meetings
- Assign Distinct Responsibilities
- Specify Clear Lines Of Communication
- Incorporate Appropriate Contingencies
- Commitment To Quality



•Risk Management

Ten Tips for Managing a Project



- Understand the project objectives
- Maintain procedures that support project management efforts
- Plan, plan and then plan some more
- Decide how problems will be resolved (and by whom)
- Establish effective mechanisms for monitoring performance

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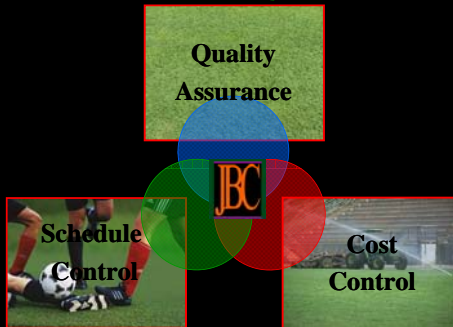
Ten Tips for Managing a Project



- Manage the project scope!
- Understand project risks and take appropriate action when necessary
- Keep your team happy and focused
- Gain senior management support
- Don't forget to communicate project successes (loudly)

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PROCESS = QUALITY



Our Framework for Success

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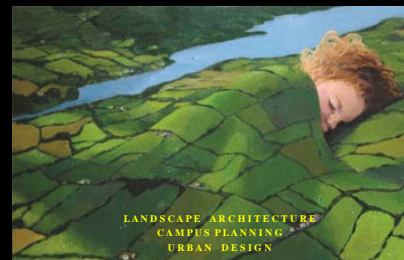
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When in doubt, go get help!!!!

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